

IN THE CLAIMS:

Please add new Claim 54.

1-27. (Cancelled).

28. (Previously Presented) An optical wiring device comprising:
an electric connecting portion, said electric connecting portion comprising a
plurality of recessed couplers and a plurality of pins for connecting an external electric
element with said optical wiring device;
optical transmission means for transmitting an optical signal; and
an optical conversion device that conducts an optoelectric conversion, said
optical conversion device comprising at least a surface optical device and being disposed
between said electric connecting portion and said optical transmission means,
wherein said optical transmission means and said optical conversion device
are fixed such that said optical transmission means is optically coupled to said optical
conversion device, and
wherein said electric connecting portion is detachably connected to said
optical conversion device.

29. (Previously Presented) An optical wiring device according to claim
28, wherein said optical conversion device includes a light emitting device and a light

receiving device, which light receiving device is a p-i-n photodiode or a metal-semiconductor-metal (MSM) photodiode.

30. (Previously Presented) An optical wiring device according to claim 28, wherein said optical conversion device has a plurality of surface optical devices with independent electrodes mounted in a flip-chip manner.

31. (Previously Presented) An optical wiring device according to claim 28, wherein an integrated electronic circuit device that drives said optical conversion device is disposed in said optical connecting device.

32. (Previously Presented) An optical wiring device according to claim 28, wherein said optical conversion device is a surface emitting device having multi-layer reflective mirrors.

33. (Previously Presented) An optical wiring device according to claim 28, wherein said optical transmission means includes a metal wiring.

34. (Previously Presented) An optical wiring device according to claim 33, wherein the metal wiring is formed as a wiring pattern.

35. (Previously Presented) An optical wiring device according to claim 28, wherein said optical conversion device is driven by a CMOS buffer of an external apparatus connected to said electric connecting portion.

36. (Previously Presented) An optical wiring device according to claim 28, wherein said electric connecting portion includes a recessed electric coupler.

37. (Previously Presented) An optical wiring device according to claim 28, wherein a plate having a window is disposed between said optical conversion device and said optical transmission means and the window has a lens.

38. (Previously Presented) An optical wiring device according to claim 28, wherein said optical conversion device is prepared by a process comprising the steps of forming an active layer on a substrate and removing said substrate.

39. (Previously Presented) An optical wiring device according to claim 28, wherein said optical transmission means comprises a single mode fiber.

40. (Previously Presented) An optical wiring device according to claim 28, wherein said optical transmission means is fixed in said optical connecting device by V-shaped grooves on a silicon substrate.

41. (Previously Presented) An optical wiring device according to claim 28, wherein said optical transmission means comprises a waveguide sheet in which waveguide cores are arranged in an array.

42. (Previously Presented) An optical wiring device comprising:

an electric connecting portion, said electric connecting portion comprising a plurality of recessed couplers and a plurality of pins for connecting an external electric element with said optical wiring device;

optical transmission means for transmitting an optical signal; and

an optoelectric converting portion, said optoelectric converting portion including a plurality of surface emitting devices and a plurality of surface receiving devices and being disposed between said electric connecting portion and said optical transmission means,

wherein said optical transmission means and said optoelectric converting portion are fixed such that said optical transmission means is optically coupled to said optoelectric converting portion, and

wherein said electric connecting portion is detachably connected to said optoelectric converting portion.

43. (Previously Presented) An optical wiring device comprising:

an electric connecting portion, said electric connecting portion comprising a

plurality of recessed couplers and a plurality of pins for connecting an external electric element with said optical wiring device;

optical transmission means for transmitting an optical signal; and

an optoelectric converting portion, said optoelectric converting portion including a plurality of surface optical devices arranged in a two-dimensional array and being disposed between said electric connecting portion and the optical transmission means,

wherein said optical transmission means and said optoelectric converting portion are fixed such that said optical transmission means is optically coupled to said optoelectric converting portion, and

wherein said electric connecting portion is detachably connected to said optoelectric converting portion.

44. (Previously Presented) An optical wiring device comprising:

an electric connecting portion, said electric connecting portion comprising a plurality of recessed couplers and a plurality of pins for connecting an external electric element with said optical wiring device;

optical transmission means for transmitting an optical signal; and

an optoelectric converting portion, said optoelectric converting portion including at least a surface optical device and through-hole and being disposed between said electric connecting portion and said optical transmission means,

wherein said optical transmission means and said optoelectric converting portion are fixed such that said optical transmission means is optically coupled to said optoelectric converting portion, and

wherein said electric connecting portion is detachably connected to said optoelectric converting portion.

45. (Previously Presented) An electronic device comprising an optical wiring device according to claim 28 to connect at least first and second boards.

46. (Previously Presented) An electronic device comprising an optical wiring device according to claim 42 to connect at least first and second boards.

47. (Previously Presented) An electronic device comprising an optical wiring device according to claim 43 to connect at least first and second boards.

48. (Previously Presented) An electronic device comprising an optical wiring device according to claim 44 to connect at least first and second boards.

49. (Previously Presented) An electronic device comprising a display, a computer, and a connecting means for wiring said display and said computer, wherein said connecting means comprises an optical connecting device according to claim 28.

50. (Previously Presented) An electronic device comprising a display, a computer, and a connecting means for wiring said display and said computer, wherein said connecting means comprises an optical connecting device according to claim 42.

51. (Previously Presented) An electronic device comprising a display, a computer, and a connecting means for wiring said display and said computer, wherein said connecting means comprises an optical connecting device according to claim 43.

52. (Previously Presented) An electronic device comprising a display, a computer, and a connecting means for wiring said display and said computer, wherein said connecting means comprises an optical connecting device according to claim 44.

53. (Previously Presented) An optical wiring device comprising:
an electric connecting portion, said electric connecting portion comprising a plurality of recessed couplers and a plurality of pins for connecting an external electric element with said optical wiring device;
an optical transmission means for transmitting an optical signal, said optical transmission means including a metal wiring; and
an optical conversion device for conducting an optoelectric conversion, said optical conversion device disposed between said electric connecting portion and said optical transmission means,

wherein said optical transmission means and said optical conversion device are fixed such that said optical transmission means is optically coupled to said optical device, and

wherein said electric connecting portion is detachably connected to said optical conversion device.

54. (New) An optical wiring device comprising:
an electric connector;
optical transmission means for transmitting an optical signal; and
an optical conversion device that conducts an optoelectric conversion, said optical conversion device having at least an optical device, and said optical conversion device being disposed between said electric connector and said optical transmission means;
wherein said optical transmission means and said optical conversion device are fixed such that said optical transmission means is undisconnectedly coupled to said optical conversion device, and said electric connector has a first connector and said optical conversion device has a second connector, wherein said first connector and second connector are able to be connected and disconnected.